

ABSTRACT OF THE DISCLOSURE

The present invention discloses an interferometer optical switch that can carry out switching over a broad
5 band and has a high extinction ratio and large fabrication tolerance. The optical multi/demultiplexing device employs a phase generating coupler(111), the phase difference of the output of which has wavelength dependence, as at least one of the optical multi/demultiplexing device included
10 in the interferometer optical switch. A wavelength insensitive interferometer optical switch is implemented by making the sum $2\pi\{\phi_1(\lambda) + \phi\Delta_L(\lambda) + \phi_2(\lambda)\}$ constant regardless of the wavelength, where $\phi_1(\lambda)$ is the phase produced by the phase generating coupler(111), $\phi\Delta_L(\lambda)$ is
15 the phase difference of the optical delay line(131) with an optical path length difference of ΔL , and $\phi_2(\lambda)$ is a phase difference between light rays output from a directional coupler (153).